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COST INCREASES ON FOUR WATERSHED PROJECTS OF THE SOIL CONSERVATION SERVICE

HEARING

BEFORE THE

SUBCOMMITTEE ON WATER RESOURCES

OF THE

COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS UNITED STATES SENATE

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COST INCREASES ON FOUR WATERSHED PROJECTS OF THE SOIL CONSERVATION SERVICE

WEDNESDAY, JUNE 13, 1984

U.S. SENATE,
COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS,
SUBCOMMITTEE ON WATER RESOURCES,
Washington, DC.

The subcommittee met, pursuant to notice, at 10:10 a.m., in room SD–406, Dirksen Senate Office Building, Hon. James Abdnor, chairman of the subcommittee, presiding.

Present: Senator Abdnor.

OPENING STATEMENT OF HON. JAMES ABDNOR, U.S. SENATOR FROM THE STATE OF SOUTH DAKOTA

Senator ABDNOR. The subcommittee will come to order.

Good morning, we are conducting this hearing today to help the committee better understand the justification for the Soil Conservation Service's request to proceed with four projects on which the costs have risen beyond the limits authorized by this committee. For work to proceed on these projects, this committee must provide permission for the SCS to spend beyond the limits in the authorization.

I believe I speak for the entire Subcommittee on Water Resources when I say that the Small Watershed Program is basically a sound one, one that deserves our support.

This committee has long maintained that the intent of Public Law 566 was to foster relatively small, primarily rural, water resource projects which had significant benefits for the agricultural sector of our economy.

By and large, SCS has carried out Congress' intent admirably.

It is of concern to the subcommittee, however, that SCS should come back to us on four of these projects and request substantial cost increases. We want to make sure that these cost increases are justified, particularly in light of the fact that two of these projects, Little Calumet and Cottonwood-Walnut Creek, are quite expensive.

This subcommittee has in the past expressed concerns about certain aspects of the Small Watershed Program. In S. 1739, the Water Resources Development Act of 1983, which this subcommittee drafted, and which is now pending before the Senate, there are four provisions which address these concerns. Two of these provisions are of particular importance here.

Section 205 of S. 1739 requires small watershed projects with a Federal cost of over $10 million to be authorized by an act of Congress

rather than by a mere committee resolution as is now the case. Small watershed projects have, on the average, become more expensive over the years and many exceed the cost of comparable Corps of Engineers projects which must be authorized by an act of Congress. Therefore, the subcommittee thought it appropriate that the full Congress review and authorize the larger SCS projects in the committee's jurisdiction.

Section 206 requires that any project submitted to the Committee on Environment and Public Works for authorization must have at least 20 percent of its benefits related to agriculture. This provision reflects the subcommittee's concern that many of these projects did not truly carry out what we believe to be a major intent of Public Law 566—to help relatively small rural and agricultural communities improve their water and land resources. This project was never intended to benefit primarily urban areas, and the subcommittee has reviewed too many of these projects which do just that. Little Calumet is a case in point.

Having said that, I will say that these provisions of S. 1739 do not affect the four projects before us today. We just want you to know what our thoughts are and what we are thinking about for the future.

Although these projects have been reviewed and approved once by this subcommittee, we will look carefully at whether or not the requested cost increases are well justified before taking any further action. So, to this end, we look forward to hearing today's testimony.

I would like to welcome back Mr. Joe Haas, who has testified before this subcommittee on numerous occasions in the past and is Deputy Chief for Natural Resource Projects with the Soil Conservation Service. Mr. Haas, we welcome you and Mr. Peterson, to the committee.

STATEMENT OF JOSEPH W. HAAS, DEPUTY CHIEF, NATURAL RESOURCE PROJECTS, SOIL CONSERVATION SERVICE, ACCOMPANIED BY JOHN W. PETERSON, DIRECTOR, PROJECT DEVELOPMENT AND MAINTENANCE DIVISION, SOIL CONSERVATION SERVICE

Mr. HAAS. Thank you, Mr. Chairman. We appreciate and understand your opening comments and appreciate the kind words about the watershed program.

As you point out, we are here to further discuss four watershed projects you have previously approved but with limitations on project costs. These projects are Bush River watershed and Great Creek watershed in Virginia; Little Calumet River watershed, Illinois; and Cottonwood-Walnut Creek in New Mexico. I have with me Mr. John W. Peterson, Director, Project Development and Maintenance Division, who will provide a brief technical explanation of each project and cite the reasons why the original cost estimates are being exceeded.

We should point out, Mr. Chairman, as you well know, that the past several years have been challenging times for the proponents of water resource projects. The awareness of environmental issues that reached its peak during the 1970's, the attendant environmental impact analyses and National Environmental Policy Act permits that were required, the lengthy multiple-objective planning procedures required, and the design and construction cost increases due to new and

improved structural design criteria for earthen dams to meet dam safety requirements all served to delay and, in many cases, add to the cost of many worthy projects.

From June 1976 to the present, your committee has conditionally approved 44 watershed projects. The approvals contain the condition that Federal costs, after adjustment for inflation, cannot exceed those shown in the work plan.

We are here today to inform the committee that these four watershed projects will exceed the originally planned costs. We feel there are several valid reasons why this has happened. We will outline the reasons in detail for each of the four projects.

The local and state sponsors of these projects have contributed significant time, effort, and financial obligations and are anxious to complete them.

Without further ado, then, I would like to call on, with your permission, Mr. Peterson, to talk specifically about each of the four projects, unless you have questions of a general nature at this time.

Senator ABDNOR. That's fine. Mr. Peterson, we know of your expertise. I am sure you have all the answers.

BUSH RIVER WATERSHED, VA.

Mr. PETERSON. Thank you, Mr. Chairman. I hope we do.

I will take the projects up in the order in which you mentioned them, starting with Bush River watershed in the State of Virginia. We will pass out a project map also showing just exactly what the components of the project are.

This is a 98,772-acre watershed projected located in Prince Edward County, VA, which was approved for construction by the Committee on Environment and Public Works of the Senate on August 23, 1978.

At that time, it was constrained in this manner. The Federal expenditures were limited to about $3.6 million which was the estimated Federal cost as shown in the work plan, and the purposes and scope of the project were to be substantially as set forth in the work plan.

This particular plan provides for the installation of conservation land treatment practices as do most Soil Conservation Service projects. It provides for the construction of two multiple-purpose structures or reservoirs and six single-purpose floodwater-retarding reservoirs. If constructed, these structures would ultimately reduce annual flood damages by 62 percent and provide 10,000 acre-feet of municipal and industrial water storage for Prince Edward County and 12,200 acre-feet of storage for fish and wildlife development.

I might just mention that on both of these multiple-purpose reservoirs, the sponsors have provided public access even though recreation was not one of the purposes.

In this case, the purpose or scope of the project has not been altered. The estimated Federal cost of the project as shown on the watershed plan when we updated just for inflation has increased to $5,075,000, and the current estimate of the Federal cost needed to complete this project is $6,490,000.

Two factors basically contributed to these cost increases. The first and most significant are the design and construction cost increases that are due to new and improved structural design criteria that meet

our current dam safety requirements. These basically have required an increase in emergency spillway capacity and the installation of special structural features such as chimney drains. These particular requirements resulted in most of this project's cost increases.

There have been some additional costs incurred as we fully implemented the National Environmental Policy Act of 1969, particularly section 404, which meant that additional personal and approval time has been necessary to assist the sponsors in obtaining their water quality permits and their 404 dredge and fill permits.

In this particular project the sponsors and the Soil Conservation Service are presently building two of the structures that you see on your map, structures 1E and 2; 1E is the fish and wildlife multiple-purpose reservoir and structure 2 is a single-purpose floodwater-retarding reservoir.

In this particular Bush River watershed project, then, the original expenditures were constrained to $3.6 million. If we update those just for inflation, that becomes $5,075,000, and we anticipate right now that Public Law 566 funds needed to complete this project would be $6,490,000.

Do you have any questions, Mr. Chairman, on Bush River?

Senator ABDNOR. First, let me ask quickly, you heard me, in my opening statement, make reference to what would happen if our legislation, S. 1739, would have been in effect. Would these qualify under that? I am just curious.

Mr. PETERSON. Yes, sir; these are agricultural. You are talking about the benefits here?

Senator ABDNOR. Yes.

Mr. PETERSON. These are, for the most part, agricultural projects, except we do have benefits for recreation and for fish and wildlife habitat development.

Senator ABDNOR. Speaking of not only the Bush but also the Great Creek, the National Environmental Policy Act has been in effect since 1970, and given the 8-year leadtime, why is it that compliance with NEPA is given as a reason for cost increases? Why was that not taken care of before?

Mr. PETERSON. Mr. Chairman, when I alluded to compliance with NEPA, I did not refer to the preparation of an environmental impact statement at all. What I was referring to was actually complying with particular section 404 which forces the sponsors to get water quality dredge and fill permits. And the time taken and the process by which they get those permits has been a learning process.

Senator ABDNOR. Thank you. That is all for that one.

GREAT CREEK WATERSHED, VA.

Mr. PETERSON. The next one I would like to discuss is Great Creek watershed also in Virginia. Again, we will pass out a project map of this particular watershed project.

This is an almost 30,000-acre watershed project located in Brunswick County, VA.

Senator ABDNOR. How far apart? Are they close together?

Mr. PETERSON. These are fairly close together in the south-central part of the State of Virginia, yes, sir.

This particular project was approved for construction by resolutions adopted by the Committee on Environment and Public Works in 1978. In this project, the expenditures were limited to $1.7 million which was the estimated Federal cost as shown in the work plan.

Again, the purpose and the scope of the project should be substantially as set forth in the work plan. In this case, the purpose or scope of the project has not been altered at all.

The estimated cost of the project shown in the work plan, if we update it just to account for inflation, becomes $2,051,400. Our current estimate for this project in order to complete it, and this is strictly a one-reservoir project, is $2,900,000.

Again, there are primarily two factors, one much more significant than the other, that contributed to these cost increases.

First are the design and the construction cost increases that are due to new and improved structural design criteria that meet our current dam safety requirements. These again required changes and additions to the emergency spillway capacity and the installation of chimney drains.

In this particular project, these requirements alone resulted in about $800,000 of the additional $850,000 of cost. Again, we have a slight increase as a result of what we have gone through working with the sponsors to help them get their 404 and water quality permits which amounted to about $50,000.

The project sponsors in Great Creek watershed and the Soil Conservation Service are in a position to schedule construction on this project during this fiscal year. Again, this project continues to be economically justified. The benefit cost ratio as currently calculated is 1.1 to 1.

So to summarize the evaluation of changing needs to Great Creek, at the time the project was authorized, the expenditures were constrained to $1.7 million. If we adjust those only for inflation, that becomes $2,051,400, and we anticipate the funds needed to complete the project as planned is $2,900,000.

Senator ABDNOR. Thank you. Is this at all unusual? Have we ever had cost increases like this where you had to come back and ask for this?

Mr. PETERSON. No, sir; we have not. It is my understanding that the constraints have been imposed starting in about 1976, and it takes may of our projects, particularly with the kinds of sponsorship we have and their acquisition of land rights and our doing design, some time to get those projects ready for construction after they are once approved by your committee.

Senator ABDNOR. We went through some of the most fierce years of inflation we have ever had a few years ago. If that was going to show up, it certainly would have occurred in the last couple of years as well as now, wouldn't it?

Mr. PETERSON. Most of these cost increases that we are talking about today are as a result of our changing design criteria as a result of conforming safety requirements.

Senator ABDNOR. Well, in all this, then, the local sponsors are still as eager to have it as they ever were?

Mr. PETERSON. Yes, sir.

Senator ABDNOR. OK.

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Mr. PETERSON. And in some of these projects, Mr. Chairman. the local sponsor's share of the cost, particularly where there is cost sharing, have also increased.

Senator ABDNOR. True. Is this something we're going to be looking at down the road on future SCS projects? Is it a pattern we are going to see?

Mr. HAAS. Mr. Chairman, there have been a number of projects with overruns from the original estimated cost. The reason we are back here with these particular ones is because these are ones in which the committee recognized potential overruns and these are four projects, but there are 44 others besides these that have dollar limitations by the committee resolution.

We do not know how many of those may have to come back before the committee. Some will, some will not. So we are only dealing with those for which the committee established a cap, as we call it, during the aproval process. But there have been other projects with some degree of cost overrun.

Senator ABDNOR. That has been, and I should know, but we do not put that cap on all projects, is that right?

Mr. HAAS. Not at all. Since 1976, this committee has put on a cap. But not all projects that have come before the committee have had a cap on them in the manner in which these have been established.

Senator ABDNOR. Thank you. Go ahead.

LITTLE CALUMET RIVER WATERSHED, ILL.

Mr. PETERSON. If there are no other questions on Great Creek, I will talk for a minute about Little Calumet River watershed in Illinois. This project is but one of a number of different projects that together make up a very comprehensive floodwater management plan for the Greater Chicago metropolitan area.

This watershed consists of 136,500 acres with 63,000 acres of farmland and about 1,300 acres of forest land and the major crops grown are corn, soybeans, and other intensive row crops.

This watershed is located in southern Cook and northern Will Counties in the State of Illinois. In addition to the cropland, more than 7,600 residents and 140 businesses are currently subject to damage by the 1-percent-chance flood.

This project was approved for construction by resolution adopted by your committee on September 29, 1982. The authorization was limited by the following conditions.

First, expenditures were limited to $37.8 million which was the estimated Federal cost as shown in the plan, and again, the purposes served by the project should be substantially as set forth in the original plan.

This particular plan provided for the installation of conservation land treatment practices on the agricultural land, some nonstructural measures of floodproofing and channel improvement, basically the providing of advanced flood hazard information to many of these residences that were located in the floodplain so that they could take some temporary protective measures for their individual properties until such time as the projects were completed.

And it also consisted of structural measures consisting of three excavated floodwater-retarding reservoirs and one multiple-purpose excavated floodwater retarding and recreational structure with the associated facilities.

There were also 2 miles of channel work involved.

The total installation cost of this project at the time of the authorization was estimated to be $52.4 million, of which the local sponsors would have furnished $14.6 or about 28 percent.

At that time the benefit-cost ratio was 1.5 to 1. The current estimate of total installation costs for the entire project is $87.1 million. The local share of this would be almost $20 million or about 21 percent and the current calculation of the benefit-cost ratio is now 1 to 1.

What were the items that have led to the increased cost estimate of Little Calumet? First, we had virtually no experience in constructing excavated reservoirs when this project was originally planned.

Most of our cost estimates were based on work by the Metropolitan Sanitary District of Chicago in some smaller excavated reservoirs with which they had experience.

Second, because of the size of the project, we incurred additional costs by hiring outside consultants to do much of our design and construction inspection. That was a conscious decision made by the agency to save time and keep costs down which we knew would increase if the project were delayed.

Senator ABDNOR. Did outside consultants result in holding cost down?

Mr. PETERSON. We think it did, Mr. Chairman, not because the consultants costs were lower, but due to reduction in costly delays.

Senator ABDNOR. Fine. I am just curious.

Mr. PETERSON. Because of the time it would have taken for all of us to get the designs and everything done, we felt this was the most efficient way to go and we were concerned about what was happening to costs as we learned not only more about this kind of construction and because of the effects of inflation.

Now, in the case of the Little Calumet watershed, the local sponsors have made a significant investment already in land rights, and they are actively negotiating for those land rights remaining.

They have already acquired the complete needed land rights on two of the four structures. Construction is currently underway on the inlet channel of structure site No. 53 as shown on your map which is the first cross-hatched structure on the left side of your map and a contract award is already scheduled for the remainder of this structure in September of this year, 1984.

Basically, the cost increases here were the result of learning much more about this kind of construction with which none of us had much experience. So the evaluation of changing needs in Little Calumet is as follows:

The authorization limited the expenditures when this project was approved to $31,648,200. If we just adjust that for inflation, that figure would become $47,292,300, and would anticipate a total cost of $68,645,500, knowing now what we know about how those structures must be constructed which involved very detailed pumping plants and other appurtenances which add to the cost.

Senator ABDNOR. Let me ask you, this is not a great benefit ratio is it? If you had to start from scratch, and I know that a lot has gone into this, I assume that you have obtained a lot of land rights and things. So this would be one you would have to look at kind of doubtfully if you had known all this, and I am not suggesting at this point in time, and believe me, Senator Percy has told me the importance of it many times over, and I am sure it is.

But looking back on it, this could be one of those you probably take several looks at with that kind of a benefit ratio, would you not?

Mr. PETERSON. Mr. Chairman, if the benefit-cost ratio were only 1 to 1, I suspect we would. That is correct, but I think what has happened here is that we did just enough testing to make sure we still had economic feasibility because of the nature of this project. Given the nature of the project and the type of benefits, I have no doubt that it would be justified.

Senator ABDNOR. This is an expensive program, but the dollars are limited. Is somebody going to have to suffer? Are you going to have to cut back on other projects because of this?

Mr. PETERSON. It is expensive, Mr. Chairman, and should the time come when a significant amount of money would have to be provided to this project all in 1 year, it would mean that we would have to make some adjustments in this project or in other parts of the country.

Senator ABDNOR. So it is something that may cause some other very good projects to suffer. I just make a point of that. We have to recognize the fact that we have only so many dollars, and if we put them all in one place in an expensive program like this it may shortchange it somewhere else.

I guess that covers that. Would this meet the 20 percent if we had that stipulation of 20 percent agricultural benefits?

Mr. PETERSON. We think it would; yes, sir.

Senator ABDNOR. Fine. Thank you. Again, I say I am well acquainted with this by name.

Mr. PETERSON. That is why I mentioned the significant number of agricultural acres still in the watershed because when one hears about Little Calumet and drives through it, you are not aware of that.

Senator ABDNOR. It was just brought to my attention that in the beginning this did not have any agricultural benefits listed.

Mr. PETERSON. I am sorry, Mr. Chairman. In my prepared remarks you mean I did not mention the benefits, and that is correct. I did not mention the types or kinds of benefits for any of these projects.

Senator ABDNOR. We were going back to when we originally authorized it. I realize you do not have that with you, but I think if you look at it at that time it did not have any agricultural benefits listed to it. That is partially why we asked the question.

Mr. PETERSON. Mr. Chairman, I was not here then, but I suspect agricultural benefits have been part of this plan from the beginning, as they are in all traditional projects.

Mr. HAAS. Due to the urbanizing nature of this watershed, though, there is no disagreement that this is primarily an urban-type project. There is some agriculture, as John points out, and there are some benefits to land treatment and other activities, but it is primarily an urban project. There is no question about that. However, contrary to

what Mr. Peterson surmised, agricultural benefits are not used for project justification even though the watershed area is over 40 percent farmlands.

Senator ABDNOR. Why is construction being done already if you are seeking reauthorization? Have you done some construction work?

Mr. PETERSON. Yes; we have.

Senator ABDNOR. Is it wise to go ahead and do that?

Mr. PETERSON. At the time we started this construction work, Mr. Chairman, we were not aware that the constraint was going to be exceeded quite like it is, and we are back before you now with that information.

If we just completed the works that are currently under construction, we would not exceed the constraint.

Senator ABDNOR. Well, if we did not go through with this, you would be on the spot and we would look pretty foolish, too.

Mr. PETERSON. That is correct.

Senator ABDNOR. I hope, of course, maybe our new proposal will change this. I really am not being too critical. If you realized your overrun and cost, it probably would have been better to slow it down and see if we're going to go on with it. We are far enough into it now, I guess, we could not back off it we wanted to.

Mr. PETERSON. Well, Mr. Chairman, we are back before you as quickly as we could get back once we realized the position we were in.

Senator ABDNOR. OK.

COTTONWOOD-WALNUT CREEK WATERSHED, N. MEX.

Mr. PETERSON. The last of the four projects we would like to discuss today is Cottonwood-Walnut Creek watershed in the State of New Mexico. This is a 228,000-acre watershed project located in Chaves and Eddy Counties in New Mexico, which was approved for construction by the committee back on June 15, 1976.

In this particular case, we do happen to have one of the larger project maps that I hope you can see. At the time this project was approved, the expenditures were limited to $8.7 million which was the Federal cost as shown in the work plan.

Again, as with all of the other constraints, the purposes and the scope of the project were to be substantially as set forth in the plan.

This original project plan included 10 floodwater detention reservoirs, 1 multiple-purpose recreation and flood protection reservoir, 5 diversions, and 9.7 miles of channel improvement for flood protection.

This plan provided for the installation of conservation land treatment practices on the cropland. It provided for protection from floods for agricultural and urban lands, and it allowed for the improvement of existing water supplies for irrigation, povided recreational development on Cottonwood Creek which had public access.

Because of significant increases in costs, the SCS and the sponsors are considering a proposal which would construct only three reservoir sites, No. 6, No. 8, and No. 19, and do minimal channel work.

This would mean the elimination of seven of the originally planned sites. If these components were to be constructed, the project would then be terminated. The sponsors have already acquired over 95 percent

of the land rights needed for those three sites. The Soil Conservation Service has already spent $3.5 million and the sponsors over $1.1 million.

This particular proposal would not accomplish all of the basic objectives of the original plan but would accomplish a significant portion of them. The project purposes have not been altered.

This alternative and others are still being analyzed and will be analyzed in greater detail in the next few weeks. Another obvious alternative would be to construct site No. 6 which is partially completed, and delete all those remaining, and I will discuss the economics of that in just a minute.

In any event, we are concerned that the original approval authority would be exceeded, and for this reason, we bring this project back before this committee.

The final designs that we are experiencing on these sites reflect major increases in costs above those that were estimated during planning. These have gone far beyond that which could be attributed only to inflation.

The major things that have changed in terms of what we have had to build or design: One, we have experienced much increased foundation excavation and earth fill needed in the structures. Two, the addition of embankment drains in these structures. Three, changes in types of the concrete emergency spillways used. Four, the addition of an extensive rock riprap which was not originally anticipated. Five, in one case, we modified the location of the site. And six, much additional rock excavation was discovered which we were not aware of.

Now, in addition to needing to incorporate these changes to meet the new and improved design criteria for earth dams for dam safety requirements, we learned much as a result of more intensive design investigations on the site conditions which we did not anticipate at the time this plan was prepared.

The knowledge gained on this project has greatly increased the accuracy of our cost estimates in future projects in the Southwest.

I mentioned site No. 6. Construction is already underway at site No. 6. The earth fill has been constructed and for the past 18 months it has been instrumented and we are monitoring that particular fill, if you will, for settlement.

We discovered that many of those soils would compress when loaded, something that was not anticipated during the plan. So in order to determine how to complete that design, the earth fill had to be built and then monitored, the subsidence recorded, and the remainder of the structure then designed to complete it.

A project agreement has already been signed for the completion of this individual structure. Detailed designs and land rights are completed for site No. 8, and site No. 19 which is the multiple-purpose flood prevention and recreation reservoir is already being designed.

The State of New Mexico has already acquired most of the land rights for structure site No. 19.

Senator ABDNOR. Is that the big one?

Mr. PETERSON. That is the one shown in red, Mr. Chairman; yes, sir.

I might indicate that it is that particular site which the State of

New Mexico, which is a partner in this project, has the most investment, and it is the one site with which they are most concerned.

Now, the total installation cost of this project when it was originally planned was estimated to be $12 million, of which the local sponsors were expected to furnish $3 million or about 25 percent.

At that time the benefit-cost ratio of the project was 1.2 to 1. Now, the revised Federal cost of just this particular three-structure combination has become $24.6 million and the resulting benefit-cost ratio of just that particular increment is down to 0.6 to 1. So it is not economically feasible.

Senator ABDNOR. Ten reservoirs to three and in doing so going from $12 million up to $24 million. That is a tremendous change.

Mr. PETERSON. It is, Mr. Chairman, tremendous change, and mostly attributed, I think, to not only what we have had to do to incorporate dam safety features but for what we learned as we did the detailed site investigations during design.

Senator ABDNOR. Do you think we are going to have this in the future when you come in here, this big a difference?

Mr. PETERSON. I certainly hope not, Mr. Chairman. We should not.

Senator ABDNOR. This is going to slow down the numbers we have built. These are getting to be the cost of small corps projects.

Mr. PETERSON. Mr. Chairman, this discussion we are having represents a negotiation to terminate this project short of completing it.

Senaotr ABDNOR. Well, if we had gone into the original program, what in the world would it cost?

Mr. PETERSON. If we had gone into the completion of the original project as planned, the estimate was $8.7 million originally. Updating that only for inflation would have brought it up to about $12 million, and we estimate now with what we have learned it would take about $40,500,000 to complete it, and it would not be economically feasible.

Senator ABDNOR. Well, the other seven reservoirs would have cost a lot less, apparently, than the first three.

Mr. PETERSON. That is correct, Mr. Chairman. Many of them were much smaller, controlling smaller drainage areas.

Senator ABDNOR. Did you have any problems getting together on the three you chose?

Mr. PETERSON. We had significant problems. We have been negotiating with the sponsors, particularly the State, for the past 18 months. As I indicated, site 6 is almost completed. Site 19 is the one the sponsors seem to have most of the interest in, and incidentally, Mr. Chairman, their interest goes back to at least 1968 when the State legislature in New Mexico designated that area a State park, and in the next year, 1969, they started acquiring the land rights at that site.

One of the problems with how we are trying to resolve this short of completing it and terminating it is how to design site 19 with only site 6 above it. You can see there is still a considerable amount of the uncontrolled watershed above structure site 19 which would mean that there would be virtually no flood protection downstream.

We were looking around for some way to try to do as much as we could in terms of providing the benefits that the original project in-

tended to achieve. We think, even though it is not an economically feasible solution that one of the most effective solutions would be site 8, site 6, and site 19 and terminate the rest.

Senator ABDNOR. There is no chance you are going to be coming back in a year's time asking for the others. I do not know if you can even do that.

Mr. PETERSON. No, Mr. Chairman. This is one of the discussions we are having with the sponsors, and as I indicated in the opening part of the statement, while it is still being negotiated, this probably represents a solution they would accept.

Mr. HAAS. Mr. Chairman, I might interject at this point that even those three are still under debate and deliberation with the sponsors. We are concerned, as I am sure you are, with the cost of those other two sites.

As John pointed out, one alternative would simply be to complete the one already under construction, and that alternative will also be discussed with the sponsor. It is just that these three sites seem to be the best combination to achieve the highest benefit-cost ratio we can, but there is still concern as to whether we should actually build the other two.

Senator ABDNOR. I might say that Senator Domenici wanted to be here. He got called down to the White House. Senator Domenici is not only a member of this committee, but is particularly interested in this project. He certainly would have been here to give you his views on it had he not had to go to the White House for a budget discussion.

Mr. HAAS. We are aware he has a great deal of interest in this project.

Senator ABDNOR. Well, I think that pretty well concludes this. If we have any other questions, I will feel free to submit them in writing.

We thank you for coming up here.

Mr. HAAS. Thank you, Mr. Chairman. We will be pleased to answer any further questions.

Senator ABDNOR. We thank you for coming up here and giving us the background on these. We will await committee action here.

Thank you very much.

[Whereupon, at 10:49 a.m., the subcommittee adjourned at the call of the Chair.]

[Letters received for the record, Mr. Haas' written statement, and project descriptions follow:]

CHARLES H. PERCY
ILLINOIS

United States Senate

WASHINGTON, D.C. 20510

May 24, 1984

Honorable Robert Stafford
Chairman
Committee on Environment and
Public Works
United States Senate
Washington, D. C. 20510

Dear Bob:

The Soil Conservation Service of the U. S. Department of Agriculture recently sent you a letter requesting the Committee on Environment and Public Works to approve a federal cost increase for the construction of the Little Calumet River watershed program in Illinois. I strongly urge the Committee to approve this increase.

The Little Cal project, as you know, will provide much-needed flood protection to about 7,000 homes in a 10,800 acre flood plain along the southern rim of Cook County. As a by-product, it will also provide increased recreational opportunities in the area.

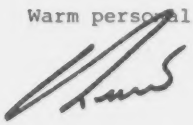
A Committee resolution in 1982 authorized expenditures for the Little Cal project up to $37,833,800. This amount was based on 1978 prices. The SCS estimates that the November, 1983, installation price is $87,183,500, of which the local share is $18,538,000. A Committee authorization is therefore needed to approve appropriations up to $68,645,500.

I understand from my staff that a full Committee resolution is not needed to authorize the new cost estimates for the Little Cal. Rather, a letter from you as Chairman to the SCS will suffice.

The Little Cal is an important project for the entire Chicago south suburban area. I am committed to its completion and I hope you will be able to grant your approval to the SCS.

Thank you very much for your consideration and your help.

Warm personal regards,



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COMMONWEALTH OF VIRGINIA

PIEDMONT SOIL AND WATER CONSERVATION DISTRICT

June 6, 1984

Senator James Abdnor
309 Hart Building
Washington, D.C. 20510

Dear Senator Abdnor:

SUBJECT: PL-566 Small Watershed Projects
Bush River Watershed
Prince Edward County, Virginia

During October 1978 final Congressional approval was received for this PL-566 flood control project. After this approval was obtained, problems were encountered in obtaining a construction start and 404 permits from the Corps of Engineers. This has resulted in increased construction costs from inflation, mitigation of wetlands and design changes.

This project has begun to show what can be accomplished by local people working together to provide flood control, a water supply, and recreation. Two of the eight structures of this project are under construction at present. One structure will provide recreation and flood control, and the other flood control. The other multi-purpose structure is for a county water supply and flood control and should be under construction in the near future. This leaves five flood control structures to be built as funds become available.

It is apparent that the funds originally designated for this project will not be sufficient to complete the project as planned. It is our opinion that the needed benefits cannot be obtained without the plans being implemented as originally approved. We would like to seek your support to increase the funding for this project when the Senate Public Works Committee considers this matter on June 13.

Any support that you can give to increase the funding to the needed level will be deeply and sincerely appreciated.

Sincerely,

Dudley L. Peery

Dudley L. Peery, Secretary
Piedmont Soil & Water Conservation District

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Prince Edward County
OFFICE OF
COUNTY ADMINISTRATOR
P. O. BOX 382
Farmville, Virginia 23901

COUNTY ADMINISTRATOR
MILDRED B. HAMPTON

TELEPHONE
(804) 392-8837

June 6, 1984

Senator James Abdnor
309 Hart Building
Washington, D.C. 20510

Dear Senator Abdnor:

Subject: Increasing Funding for PL-566
Watershed Projects

It has come to our attention that the Senate's Public Works Committee will consider increasing funding for certain PL-566 Watershed Projects on June 13th. We would like to urge you to increase the funding on the Bush River Watershed Project in Prince Edward County, Virginia to a level where the project can be completed as planned.

There have been very few things that have had the support of our local people that this project has enjoyed. Our people already see the benefits that will be derived from this project. It will provide them with flood control, recreation, and a county water supply. By having an adequate water supply, we will be able to attract additional industry. This will enable us to provide jobs so that we can keep those we educate here in our area.

Prince Edward County is one of the sponsors of this project. In addition, we are developing one of the structures of this project for a county water supply. To date we have invested over $800,000 of local funds purchasing land and designing the structure to be used as a multi-purpose water supply and flood control facility. We believe this, plus the other seven structures of this project, will complement our other resources so that we not only provide for the needs of our people, but will also protect and improve our environment.

Any assistance that you can provide in getting increased funding for this project will be greatly appreciated.

Sincerely,

Hugh E. Carwile, Jr.

Hugh E. Carwile, Jr., Chairman
Board of Supervisors

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STATEMENT
BY
JOSEPH W. HAAS, DEPUTY CHIEF FOR NATURAL RESOURCE PROJECTS
SOIL CONSERVATION SERVICE, U.S. DEPARTMENT OF AGRICULTURE
BEFORE THE
SUBCOMMITTEE ON WATER RESOURCES
COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS
UNITED STATES SENATE
ON
WEDNESDAY, JUNE 13, 1984

Mr. Chairman, we are here to reaffirm our support for four watershed projects you have previously approved but with limitations on project costs. These projects are Bush River Watershed and Great Creek Watershed in Virginia; Little Calument River Watershed, Illinois; and Cottonwood-Walnut Creek, New Mexico. I have with me, Mr. John W. Peterson, Director, Project Development and Maintenance Division, who will provide a brief technical explanation of each project and cite the reasons why the original cost estimates are being exceeded.

The past several years have been challenging times for the proponents of water resource projects. The awareness of environmental issues that reached its peak during the 70's, the attendant environmental impact analyses and National Environmental Policy Act (NEPA) permits that were required, the lengthy multiple-objective planning procedures required, and the design and construction cost increases due to new and improved structural design criteria for earthen dams to meet dam safety requirements all served to delay many worthy projects.

From June 1976 to present, your committee conditionally approved 44 watershed projects. The approvals contain the condition that Federal costs, after adjustment for inflation, cannot exceed those shown in the work plan.

We are here today to inform the committee that these four watershed projects will exceed the originally planned costs. We feel there are several valid reasons why this has happened. We will outline the reasons in detail for each of the four projects in a moment.

The local and State sponsors have contributed significant time, effort, and financial obligations to these projects and are anxious to complete them.

For the explanation of the four projects being considered today, I'd now like to defer to Mr. Peterson, unless you have other questions of a general nature.

BUSH RIVER WATERSHED, VIRGINIA

The 98,772-acre Bush River Watershed project (Public Law 83-566) located in Prince Edward County, Virginia, was approved for construction by resolutions adopted by the Committee on Public Works and Transportation of the House of Representatives on October 4, 1978, and by the Committee on Environment and Public Works of the Senate on August 23, 1978. This authorization was limited by the following conditions:

1. Appropriations are limited to $3,683,800, the estimated Federal (Public Law 83-566) costs shown in the watershed plan updated to 1978 price levels, plus or minus such amounts if any, as may be justified by reason of ordinary fluctuation in the cost of construction as indicated by engineering cost indexes applicable to the type of construction involved; and

2. The purposes served by the project shall be those set forth in the watershed plan submitted for the project and the scope of the project purposes and of the project shall be substantially as set forth in such plan.

The project plan provides for the installation of conservation land treatment practices, two multiple-purpose structures, and six floodwater-retarding structures. The structures will reduce annual flood damages by 62 percent and provide 10,000 acre-feet of municipal and industrial water storage for Prince Edward County and 12,254 acre-feet of storage for fish and wildlife development.

BUSH RIVER WATERSHED, VIRGINIA

The project measures are expected to:

1. Reduce sheet and rill erosion.
2. Reduce runoff.
3. Provide flood protection to 2,430 acres of agricultural flood plain, rural roads, bridges and other fixed improvements.
4. Reduce the sediment damages to the Appomattox River and Lake Chesdin.
5. Provide adequate water supply to residents of Prince Edward County.
6. Provide 814 acres of warm water fish habitat.

The purpose or scope of the project has not been altered. The estimated Federal (Public Law 83-566) cost of the project shown in the watershed plan updated to 1983 price levels is $5,075,000. The current estimate of Federal cost for project completion is $6,490,000.

The following factors contributed to the cost increases:

1. Design and construction costs increased due to new and improved structural design criteria for earthen dams that meet dam safety requirements, which required an increase in emergency spillway capacity, and installation of chimney drains. These requirements resulted in most of this project's cost increases.

BUSH RIVER WATERSHED, VIRGINIA

2. Implementation of the National Environmental Policy Act of 1969 (§401-404, Public Law 91-190) has resulted in increased costs. Considerable additional personnel and approval time was necessary to assist sponsors in the water quality permit process.

Project sponsors and the Soil Conservation Service (SCS) are presently building two structures (1E and 2) and are scheduled to complete the project by 1993. All land required for the project has been obtained.

Evaluation of Changing Needs

	PL-566 Fund Authorization Level - 1978	PL-566 Fund Authorization Level Adjusted to 1983 For Inflation Only	PL-566 Fund Authorization Level Needed to Complete Project Adjusted to 1983
	$3,683,000	$5,075,000	$6,490,000
b/c ratio	1.7:1.0		2.28:1.0

GREAT CREEK WATERSHED, VIRGINIA

The 29,754-acre Great Creek Watershed project (Public Law 83-566) located in Brunswick County, Virginia, was approved for construction by resolutions adopted by the Committee on Public Works and Transportation of the House of Representatives on October 4, 1978, and by the Committee on Environment and Public Works of the Senate on August 23, 1978. This authorization was limited by the following conditions:

1. Appropriations are limited to $1,708,000, the estimated Federal (Public Law 83-566) costs shown in the watershed plan updated to 1978 price levels, plus or minus such amounts if any, as may be justified by reason of ordinary fluctuation in the cost of construction as indicated by engineering cost indexes applicable to the type of construction involved; and

2. The purposes served by the project shall be those set forth in the watershed plan submitted for the project and the scope of the project purposes and of the project shall be substantially as set forth in such plan.

The purpose or scope of the project has not been altered. The estimated Federal (Public Law 83-566) cost of the project shown in the watershed plan updated to 1983 price levels is $2,051,400. The current estimate for project completion is $2,900,000. This is a one structure (reservoir) project.

GREAT CREEK WATERSHED, VIRGINIA

The following factors contributed to the cost increases:

1. Design and construction costs increased due to new and improved structural design criteria for earthen dams that meet dam safety requirements, which required an increase in emergency spillway capacity, and installation of chimney drains. These requirements result in about $800,000 of additional costs.

2. Implementation of the National Environmental Policy Act of 1969 (§401-404, Public Law 91-190) has resulted in increased costs. Considerable additional personnel and approval time was necessary to assist sponsors in the water quality permit process.

Project sponsors and the Soil Conservation Service (SCS) are in a position to schedule construction of the Great Creek Watershed reservoir during fiscal year 1984. Increased Federal costs will be absorbed within the SCS annual appropriation for watershed protection.

The project continues to be economically justified with a benefit-cost ratio of 1.09:1.

GREAT CREEK WATERSHED, VIRGINIA

The project sponsors want SCS to continue working with them and initiate construction on this watershed in 1984. They have acquired landrights for this project.

The project measures are expected to:

1. Reduce sheet erosion and runoff.
2. Provide flood protection to the 764-acre flood plain.
3. Reduce the sedimentation in the Meherrin and Chowan Rivers.
4. Provide adequate water supply to residents of Brunswick and Lunenburg Counties.

Evaluation of Changing Needs

	PL-566 Fund Authorization Level - 1978	PL-566 Fund Authorization Level Adjusted to 1983 For Inflation Only	PL-566 Fund Authorization Level Needed to Complete Project Adjusted to 1983
	$1,708,000	$2,051,400	$2,900,000
b/c ratio	1.5:1.0		1.09:1.0

LITTLE CALUMET RIVER WATERSHED, ILLINOIS

This project is but one of a number of projects that together make up a comprehensive floodwater management plan for the Greater Chicago Metropolitan Area. The Little Calumet River Watershed project (Public Law 83-566) consists of 136,500 acres located in southern Cook and northern Will Counties, Illinois. The northern boundary is approximately three miles south of the Chicago city limits. Approximately 43,500 acres of Lake County, Indiana, drains through the watershed into the Little Calumet River. In excess of 7,600 residences and 140 businesses are subject to damage by the 1 percent chance flood. The project was approved for construction by resolutions adopted by the Committee on Public Works and Transportation of the House of Representatives on September 23, 1982, and by the Committee on Environment and Public Works of the Senate on September 29, 1982. The authorization was limited by the following conditions:

1. Appropriations are limited to $37,833,800, the estimated Federal (Public Law 83-566) costs shown in the watershed plan updated to 1978 price levels, plus or minus such amounts if any, as may be justified by reason of ordinary fluctuation in the cost of construction as indicated by engineering cost indexes applicable to the type of construction involved; and

2. The purposes served by the project shall be those set forth in the watershed plan submitted for the project and the scope of the project purposes and of the project shall be substantially as set forth in such plan.

LITTLE CALUMET RIVER WATERSHED, ILLINOIS

The project plan provides for the installation of conservation land treatment practices, nonstructural measures of floodproofing and channel improvement, and structural measures consisting of three excavated floodwater-retarding structures, one multiple-purpose excavated floodwater retarding-recreational structure with associated facilities and 1.99 miles of channel work.

The project measures are expected to:

1. Reduce critical erosion on both agricultural land and land being converted to urban uses.

2. Provide advanced flood hazard information to approximately 7,000 residences located in the 10,800-acre flood plain so they can construct temporary protection measures for their individual properties until the project is completed.

3. Reduce flood damages in the 10,800-acre flood plain and protect over 6,600 residences and 140 businesses from the 1 percent chance flood.

4. Provide recreation for over 123,000 visitors annually.

LITTLE CALUMET RIVER WATERSHED, ILLINOIS

The total installation cost (1980 price base) of the project at the time of authorization was estimated to be $52,472,100 of which local sponsors would furnish $14,638,300 or 28 percent. The average annual benefits were estimated to be $5,716,500 and the resultant benefit-cost ratio, using a 7-3/8 percent discount rate, was 1.5:1. The November 1983 estimated total installation cost is $87,183,500. The local share is $18,538,000 or about 21 percent. The updated benefit-to-cost ratio is 1.0:1.

Items that have led to increased cost estimates are as follows:

1. Additional experience in construction costs for excavated reservoirs which includes pumping plants and complex concrete inlet and outlet structures. (Original costs were estimated prior to extensive experience in construction of these type structures).

2. Because of the size of this project, additional costs were incurred by the hiring of outside consultants to do engineering designs and construction inspection.

LITTLE CALUMET RIVER WATERSHED, ILLINOIS

Local sponsors have made significant investments in landrights and are actively negotiating for the remaining landrights. Landrights have been acquired on two of the four proposed floodwater-retarding structures. Construction is underway on the inlet channel of structure No. 53. A contract award is scheduled for the remainder of this structure in September 1984.

Evaluation of Changing Needs

	PL-566 Fund Authorization Level 1977	PL-566 Fund Authorization Level Adjusted to 1983 for Inflation Only	PL-566 Fund Authorization Level Needed to Complete Project Adjusted to 1983
	$31,648,200	$47,292,300	$68,645,500
b/c ratio	1.5:1		1.0:1

COTTONWOOD-WALNUT CREEK WATERSHED, NEW MEXICO

The 228,326-acre Cottonwood-Walnut Creek Watershed project (Public Law 83-566) located in Chaves and Eddy Counties, New Mexico, was approved for construction by resolutions adopted by the Committee on Public Works and Transportation of the House of Representatives on June 9, 1976, and by the Committee on Environment and Public Works of the Senate on June 15, 1976. This authorization was limited by the following conditions:

1. Appropriations for the project are limited to $8,793,000 (1975 prices), the estimated Federal (Public Law 83-566) costs shown in the watershed plan, plus or minus such amounts, if any, as may be justified by reason of ordinary fluctuation in the cost of construction as indicated by engineering cost indexes applicable to the type of construction involved; and

2. The purposes served by the project shall be those set forth in the watershed plan submitted for the project and the scope of the project purposes and of the project shall be substantially as set forth in such plan.

The original project plan included ten floodwater-detention reservoirs, one multiple-purpose recreation and flood protection reservoir, five diversions, and 9.7 miles of channel improvement for flood protection.

COTTONWOOD-WALNUT CREEK WATERSHED, NEW MEXICO

The project plan provided for the installation of conservation land treatment practices, protection from floods for agricultural and urban lands, improve the utilization of existing water supplies, and provide a recreational development on Cottonwood Creek with public access.

Because of the significant increase in costs the sponsors have agreed to a revised proposal which would construct three reservoir sites (6, 8, and 19) and minimal channel work. After these components are constructed, the project would be terminated. This proposal is a compromise that recognizes the significant contributions and commitments already made by the Soil Conservation Service (SCS) and the sponsors. The sponsors have acquired about 95 percent of all landrights needed for the proposal. The SCS has spent about $3,500,000. The sponsors have spent about $1,100,000. This proposal will accomplish the basic objective of the original plan. The project purpose has not been altered.

The final designs reflected major increases in costs above that estimated during planning. These have been beyond that which is attributed for price inflation. The major ones are:

1. Increased foundation excavation and earthfill.
2. Addition of embankment drains.
3. Change in type of concrete emergency spillway.
4. Addition of rock riprap.
5. Change in location of site.
6. Increased rock excavation.

These changes were required to meet new and improved structural design criteria for earthen dams, dam safety requirements, and site conditions discovered as a result of more intensive design investigation. The knowledge gained on this project will greatly increase the accuracy of cost estimates in future projects of the southwest.

Construction is underway at site No. 6. The earth fill has been constructed and monitored for settlement. A project agreement has already been signed for the completion of this structure. Detailed designs and landrights acquisition are completed for site No. 8. Site No. 19, the multiple-purpose flood prevention and recreation reservoir is being designed. Most of the landrights for structure 19 have been purchased.

The total installation cost of this project was estimated to be $12,055,000 in 1975, of which the local sponsors were expected to furnish $3,262,000 or 25 percent. The 1975 average annual benefits were estimated to be $767,900 and the average annual costs were $658,100. The benefit-cost ration was 1.2 to 1.0. The Federal cost of the revised plan is $24,630,000. This revised

proposal has a benefit-cost ration of 0.6 to 1.0. This proposal represents the most effective compromise when economics, commitments, relations with local people and state governments, etc., are considered. The SCS feels the Federal government has an obligation to these sponsors and recommends that we continue working with them. We request your committee's concurrence in our decision to proceed toward termination of the project in this manner.

Evaluation of Changing Needs - Project as Originally Planned

	PL-566 Fund Authorization Level - 1976	PL-566 Fund Authorization Level Adjusted to 1983 For Inflation Only	PL-566 Fund Authorization Level Needed to Complete Project Adjusted to 1983
	$8,793,000	$11,999,000	$40,586,000
b/c ratio	1.2 to 1.0		.5 to 1.0
	Recommended Alternative to Total Project		
	$4,260,000	$6,816,000	$24,630,000
b/c ratio	1.2 to 1.0		.6 to 1.0